



ZHONE®

Kentucky Telephone Delivers IPTV Bundled Services

Kentucky Telephone offers 140 channels of local and national programming, competing effectively against much larger cable, satellite and incumbent service providers.



Kentucky Telephone is a small CLEC serving Leitchfield, KY and vicinity. As an over-builder to Windstream, the incumbent ILEC, Kentucky Telephone provides voice, data and

IPTV video services in and around the city. They have almost 500 IPTV subscribers in less than one year of offering IPTV service.

The main competition to Kentucky Telephone for IPTV is Alltel, offering DISH satellite service, and Comcast, offering digital cable. Although the content acquisition process is painstaking, Kentucky Telephone had little problem with contracts with the exception of ESPN. They offer a tiered IPTV service beginning with just local off-air channels for \$9.95 a month, up to 140 channels for \$39.95 a month. Once they have the full channel line up, future pricing packages will reflect a broader offering. Kentucky Telephone primarily markets IPTV as part of a triple play bundled service, although customers have the options of purchasing voice, data and video offerings on an 'a la carte' basis.

Kentucky Telephone has both facility and non-facility co-located offices. The head end is in one of their owned facilities, but they have Zhone's MALC access systems in both Alltel and company-owned central offices. They decided to select and deploy new broadband access systems two years ago and Zhone was among several vendors evaluated. Zhone gave them a demo unit and, after a week of testing, impressed Kentucky Telephone by demonstrating that the MALC had all of the features, including IPTV functionality, as well as line card options needed to satisfy their service needs.

Kentucky
Telephone Company

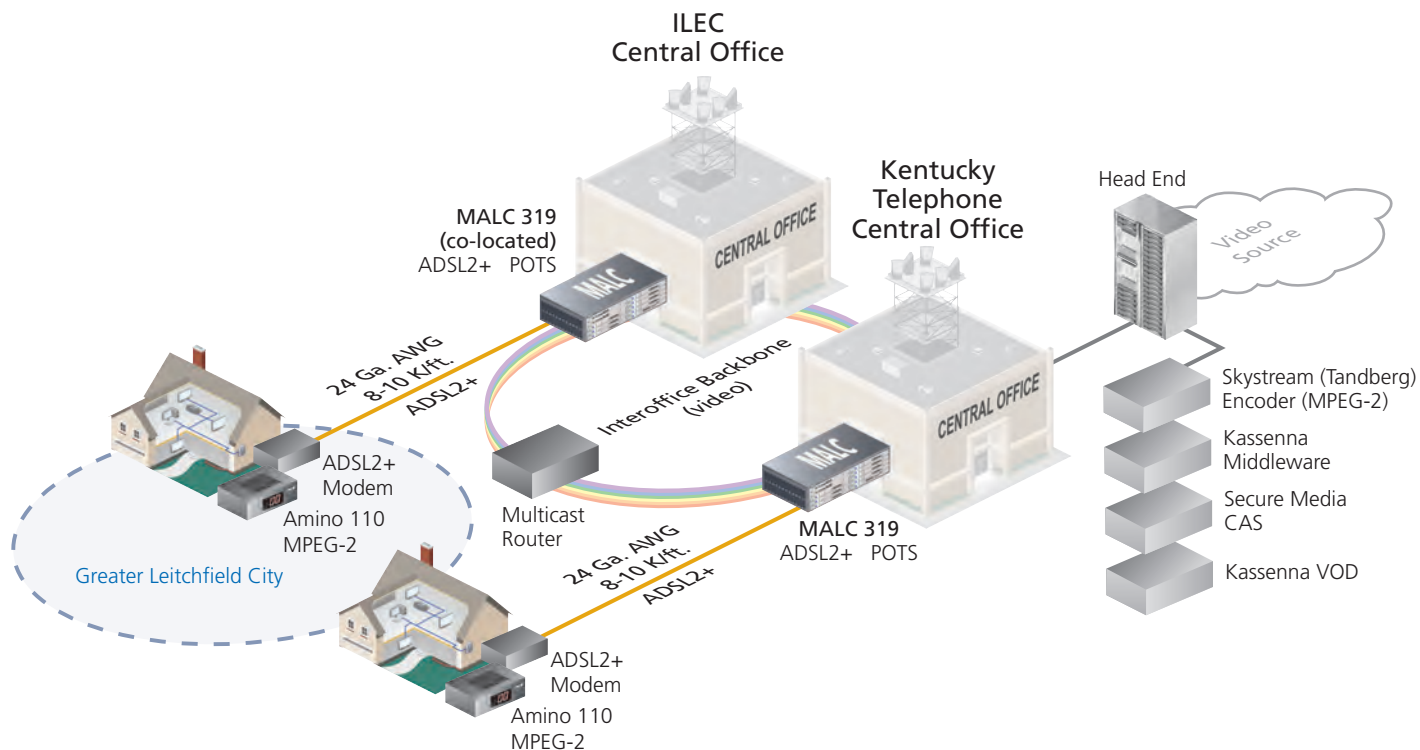


Figure 1: Kentucky Telephone IPTV deployment

Several factors were key to Kentucky Telephone's decision to use Zhone's MALC for IPTV.

Economics. As a small CLEC, CAPEX is critical to Kentucky Telephone since it operates on a limited capital budget. They did not want to invest in a partial solution for current and future service needs, preferring to invest in one platform that could do all the services they may need.

"We needed an affordable access system that was within our budget," said Joe McClung, Kentucky Telephone General Manager, "But we also cannot afford to keep buying new equipment each time new service needs arise. So we saw MALC, with its full service capabilities, as a good choice as a long term investment."

Flexibility. MALC gave them the flexibility to expand and grow by line card or software provisioning as service needs occur. While the focus is on residential services today, offering business services is possible in the future, including T-1, SHDSL and Ethernet services using line card options for MALC.

A fully-loaded MALC with ADSL2+ was more economic on a per port basis than other products evaluated.

Operational Efficiency. Deploying new services, such as IPTV, from the MALC involve software changes and not hardware investments, making life cycle economics very favorable. Kentucky Telephone saw the imbedded IGMP Proxy, sparse or dense mode multicast options, and the ability to choose bridged or routed multicast as desirable features providing flexibility not offered by other access vendors. And, because they use co-location, the high port-density of MALC in a small rack footprint saved co-location costs.

Kentucky Telephone decided ADSL2+ was the best choice for their data and IPTV service. A fully loaded MALC with ADSL2+ was much more cost-effective on a per port cost basis than other products evaluated. They also needed POTS, and again a fully loaded MALC with POTS was highly cost-effective. They found, however, that using ADSL2+ /POTS combo cards in their service model was not as economic as mixing ADSL2+ and POTS cards in MALC on a service-needs basis. It is often the case that demand is not equal for DSL and POTS, and therefore provisioning slots based on actual service demand was ultimately the most cost-effective solution for them.

Using ADSL2+ for IPTV allows Kentucky Telephone to effectively reach about 90% of subscribers from central offices, therefore eliminating the need to build infrastructure and place remote cabinets. Downstream rates range from 12 Mb/s to as much as 16 Mb/s from both Alltel co-locations and company facilities, allowing them to offer 2 set top boxes per subscriber as a standard IPTV service offering.

Kentucky Telephone uses a Skystream head end encoder providing MPEG-2 video for IPTV. They have no near term plan to offer HDTV and with the bandwidth available on Zhone's ADSL2+, see no need to migrate to MPEG-4 until such time as HDTV becomes a requirement from subscribers. Kasenna was chosen to provide the middleware based upon its low cost of entry and subscriber activation costs. Amino was chose to provide IP set top boxes, and Secure Media for Conditional Access. Skystream (now Tandberg Television), Kasenna, Amino and Secure Media are all Zhone partners and part of Zhone's multimedia center solution for IPTV. Kentucky Telephone uses Amino 100 set top boxes for basic service and offers added-value PVR service using the Amino 500 set top box.

Kentucky Telephone exemplifies how a small operator can implement advanced triple play services.

In its next phase, Kentucky Telephone will introduce VOD (Video on Demand) and Caller ID/TV as value-added services for IPTV. Kentucky Telephone understands that its current service is a “me too” service to cable, but finds customers trust the phone company and like the digital quality, allowing the CLEC to compete effectively with cable.

The training for Kentucky Telephone’s technicians has been relatively minimal, and their office administrator handles outbound marketing, even producing a brochure used to sell IPTV. The biggest challenges faced were the franchising of content and negotiating right-of-way permits from the city, a problem carriers’ large and small face in dealing with local governments. Content was time consuming but less of an overall problem than getting permits to string copper on existing telephone poles. Kentucky Telephone also represents an excellent example of how a well thought-out access strategy that considers both present and future needs, coupled with technology partners who have already integrated their technology, allows IPTV to be implemented without taking short cuts in performance or quality.



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